

**Remarks:**

Applicant thanks the Examiner for noting the allowance of claims 11-20, 24-26 and 31-34, and the allowability of claims 6-10, 22-23 and 28-29.

Rejections of Claims 1-5, 21, 27 and 30 Under 35 U.S.C. §103(a)

Claims 1-5, 21, 27 and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Berkowitz<sup>1</sup> in view of Bakker<sup>2</sup>.

Claim 1 has been amended to recite the additional limitation originally found in allowable claim 6, which has been canceled. As noted in the instant Action, Berkowitz and Bakker fail to disclose that *the deflection signals comprise a beam switching signal that switches a beam pulse along said first trajectory in order to measure the times-of-flight of components of the gas cluster ion beam over said distance, D*. Thus, claim 1 now stands in a condition for allowance with all of the claims that depend from claim 1 (i.e., claims 2-5 and 7-10.) Claim 7 was amended to depend directly from claim 1, rather than the now-canceled claim 6.

Claim 21 has been amended to recite the additional limitation originally found in allowable claim 22, which has been canceled. As noted in the instant Action, Berkowitz and Bakker fail to disclose *the formula by which the output information relative to GCIB mass or cluster size is ascertained*. Thus, claim 21 now stands in a condition for allowance with claim 23, which, as amended to correct a typographical error (dependence from claim "12"), now depends from claim 21.

Claim 27 has been amended to incorporate the limitation of allowable claim 6, recited as the analogous method step of *controllably switching the gas cluster ion beam pulse along said first trajectory*. As noted above and in the instant Action, Berkowitz and Bakker fail to disclose this limitation. Thus, claim 27 and claim 30, which depends therefrom, now stand in a condition for allowance.

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<sup>1</sup> U.S. Patent No. 4,849,641 issued 18 July 1989 to Berkowitz, Edward H.

<sup>2</sup> U.S. Patent No. 3,634,683 issued 11 January 1972 to Bakker, *et al*.

Objections to Claims 6-10, 22-23 and 28-29

Claims 6-10, 22-23 and 28-29 were found allowable but objected to as being dependent upon rejected base claims.

As noted above, claims 6 and 22 have been canceled, and their limitations have been moved to claims 1 and 21, respectively. Claim 7 has been amended to depend from presently allowable claim 1. Claims 8-10 also incorporate the limitations of claim 1, as amended, and are similarly in a condition for allowance.

Claim 23 has been amended to depend from claim 21, which as amended stands in a condition for allowance. Thus, claim 23 also stands in allowable form.

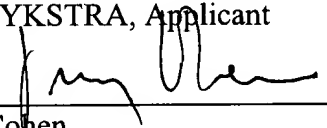
Claims 28 and 29 each depend from claim 27, as amended, and thus now contain the method limitation analogous to allowable claim 6. Thus, claims 28 and 29 also stand in a condition for allowance.

Applicant respectfully submits that the above amendments and remarks clearly establish the patentability of pending claims 1-5, 7-21 and 23-34 over the prior art of record. Favorable consideration and allowance of the pending claims are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-854-4000.

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Respectfully submitted  
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